TITLE--SPECTRUM OF PROTONS FROM THE PRIME238 U(T, PF) REACTION -U-

AUTHOR-(05)-ALMAZOV, A.V., ANDREYEV, M.F., ZAVGORODNYY, V.A., SEROV, V.I.,
   SEROV, YU.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(1), 136-7

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--TRITON BOMBARDMENT, NATURAL URANIUM, PROTON SPECTRUM, FISSION
   CROSS SECTION, EXCITATION ENERGY, OXYGEN ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1958/0238   STEP NO--UR/0048/70/034/001/0136/0137

CIRC ACCESSION NO--AP0105314
                           UNCLASSIFIED

USSR   UDC   593.374

ANDREYEV, L. V., KHMELOVSKIY, L. T., BOGATYR', G. P., PTAKHIN, Ye. A.,
Dnepropetrovsk

"The Problem of Stability of Cylindrical Shells Beyond the Limits of Elasticity"

Abstract: Results are presented from experimental studies of the stability
of cylindrical shells made of AMg6 alloy under axial compression and lateral
external pressure with various R/h and R/L ratios. A comparison is presented
with known theoretical solutions from the theory of small elastic-plastic
deformations and the theory of flow. Good agreement is achieved with calcu-
lations based on a geometrically linear theory of deformations.

1/1

Stress Analysis and Stability Studies

USSR

UDC 539.4:629.12

ANDREYEV, L. V., KRUSHEL'NITSKIY, I. N., PRIVARNIKOV, YU. K., and PROKOPALO, YE. F.

"The Influence of a Preliminary Dynamic Load Upon the Supporting Power of Cylindrical Shells"

Abstract: Results are presented of tests on aluminum cylindrical shells sub-jected to single and multiple loading by a brief impulse of external pressure and subsequent static loading. On the basis of comparison of the values of critical pressure for shells subjected to dynamic loading, and for those not subjected to it, it was found that preliminary dynamic loading, single as well as multiple, comprising 60-80% of the critical impulse, does not affect the static supporting power of shells, with various ratios of the radius to the thickness, subjected to subsequent static loading by radial and omnidirectional external pressure. 3 figures. 1 table. 2 references.

1/1

USSR   UDC 539.3.01

ANDREYEV, L. V., and D'YACHENKO, V. Ye., Dnepropetrovsk State University

"Concerning the Influence of an Elastic Base With Unilateral Connection
Upon the Stability of a Cylindrical Shell"

Abstract: The article discusses the stability of a cylindrical shell,
resting with its lateral surface upon an elastic base that is not connected
with the shell and is externally situated with respect to it. The case of
the action of a uniform external pressure is considered. The problem is
solved in a linear formulation by the method of nonlinear programming with
use of the known relationships of semizero-moment theory. Considered as
an example is the problem of a semiring which is touched on the outside
by an elastic base. 1 figures, 7 bibliographic entries.

1/1

UDC 539.4.431.3

USSR

ANDREYEV, L. P., and NOVIKOV, N. V., Kiyev, Institute of the Problems of Strength of the Academy of Sciences of the Ukrainian Soviet Socialist Republic

"The Endurance Dependence of Chrome-Nickel Steels on the Cooling Temperature (down to -269 °C)"

Kiyev, Problemy Prochnosti, No. 9, Sep 71, pp 56 -63

Abstract : The endurance dependence on the temperature of chrome - nickel steels Khl6N6 and Khl8N10T was experimentally investigated. The results of fatigue tests of flat prismatic specimens by repeatedly variable bending and cooling conditions of down to temperatures of -269 °C are presented. Effects of the medium (atmospheric conditions, gaseous helium, liquid nitrogen, vacuum 10^{-6} mm Hg), the degree of cold hardening, and surface conditions after mechanical processing by cutting and shot-stream hardening (steel Khl6N6) on the endurance at low temperatures are discussed by reference to diagrams. Seven illustr., three tables, three biblio. refs.

1/1

USSR   UDC 539.4.431.3

ANDREYEV, L. P., NOVIKOV, N. V., Kiev

"Change in Endurance of Certain Light Alloys Upon Reduction of Temperature
from Room Temperature to -269°C"

ABSTRACT: Results are presented from fatigue testing of aluminum alloys
D20, AMg6 and titanium alloy AT2 at three fixed temperatures: +20, -196
and -269°C. The dependence of endurance of the alloys on surface smoothness
following mechanical working in this temperature range is studied. The
results are presented as fatigue curves. The values of fatigue strength
are presented for each test condition.

1/1

Plant Pathology

USSR

MASIN, V. V., and ANDREYEV, L. N., Chief Botanical Garden, Academy of Sciences USSR, Moscow

"Vegetative in vitro Growth of the Pathogen of Stem Rust of Wheat"

Abstract: Spring wheat susceptible to infection Puccinia graminis Pers. f. sp. tritici (race 21) was used in this work. The wheat seeds were treated with a weak $KMnO_4$ solution and placed into sterilized soil. The plants were grown under artificial daylight for 16 hours, at $14-17^{\circ}C$ and a relative humidity of 80-90%. Plants 7-10 days old were infected with P. graminis f. sp. tritici. Formation of uredopustules was observed after 10-12 days. The first signs of the disease (6-8 days after infection of the plants) were infected leaves; they were removed, sterilized and transfered to nutrient medium under aseptic conditions. Vitamins, phytohormones, and other physiologically active compounds were added to the nutrient medium. After 5-7 days uredospores formed and light orange cushiosn of uredopustules appeared. The latter did not differ from those grown under ordinary conditions. Thus, it is possible to grow isolated sections of wheat leaves and P. graminis f. sp. tritici (race 21) can exhibit vegetative growth under saprophytic nutrient conditions. 1/1

USSR

UDC 582.295.38.18

ANDREYEV, L. N., MAZIN, V. V., and SHASHKOVA, L. S., Main Botanical Garden, Academy of Sciences USSR, Moscow

"Growth of the Agent of Stem Rust of Wheat (Puccinia graminis f. sp. tritici) under Saprophytic Conditions"

Abstract: Puccinia graminis grew well on a medium containing glucose, peptone and mineral salts for 90 days or more after which the fungus generally underwent autolysis. On the same medium without glucose, the fungus grew about 40 days and formed colonies consisting of shorter and more twisted hyphae. Similar colonies were observed when soluble starch (2%) was substituted for glucose and growth continued about 60 days. The weaker and less sustained growth of the pathogen on the medium with starch compared to that on the medium with glucose (or sucrose) suggests that exogenous amylase is a significant factor only under saprophytic conditions in the absence of mono- and oligosaccharides in the medium. There was abundant germination of uredospores and formation of colonies growing saprophytically on the surface of agar-covered medium.

1/1

USSR

UDC 539.311

ANDREYEV, L. B., D'YACHENKO, V. YE., PROKOPALO, YE. F., Dnepropetrovsk State University

"The Stability of a Cylindrical Shell, Supported on an Elastic Base, During Axial Compression"

Abstract: An investigation is made of the axisymmetric stability of a longitudinally compressed cylindrical shell of arbitrart length with arbitrary boundary conditions, and a bilateralelastic base. The shape of the curved surface is not given in advance, but is calculated simultaneously with determination of the critical load. An algorithm is worked out for calculating the critical load and the form of stability loss for fastening and hinge support of the ends. Consideration is given to the limit case of an absolutely rigid base. The problem is solved in linear formulation by the method of dynamic programming. Results of tests made on stool shells with an inserted rigid cylinder are compared with the calculation data. Four figures, 1 table, 9 references.

1/1

CIRC ACCESSION NO--AP0110729
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BEHAVIOR OF THE OVERLAP FUNCTION
  OUTSIDE THE DIFFRACTION CONE IS CONSIDERED. IT IS SHOWN HOW THE ELASTIC
  SCATTERING NEAR THE SCATTERING CONE (1 IS SMALLER THAN OR EQUAL TO T IS
  SMALLER TO OR EQUAL TO 6 (GEV-C) PRIME2) CAN PROVIDE INFORMATION ABOUT
  CHANGE OF THE GUASSIAN ANGULAR DEPENDENCE CHARACTERISTICS FOR THE
  OVERLAP FUNCTION AT SMALL ANGLES. NUMERICAL CALCN. OF THE OVERLAP
  FUNCTION IS PERFORMED BASED ON THE EXPTL. DATA ON ELASTIC PP SCATTERING
  AT ENERGIES OF 10.8 AND 19.2 GEV.   FACILITY: FIZ. INST. IM.
  LEBEDEVA, MOSCOW, USSR.

TITLE--DETERMINATION OF THE OVERLAP FUNCTION FROM ELASTIC PROTON PROTON
   SCATTERING -U-

AUTHOR-(03)-ANDREYEV, I.V., DREMIN, I.M., SHTEYNBERG, D.N.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(2), 468-71

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PROTON SCATTERING, ELASTIC SCATTERING, PARTICLE DIFFRACTION,
   CALCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/1039   STEP NO--UR/0367/70/011/002/0468/0471

CIRC ACCESSION NO--AP0110729
                        UNCLASSIFIED

RELATIVISTIC EIKONAL APPROXIMATION

I. V. Andreyev

An approximation resembling the eikonal method in potential theory is presented
for the scattering amplitude of two relativistic particles. Applications of the approxima-
tion to scattering of high energy particles are discussed.

REEL/FRAME
19731089

CIRC ACCESSION NO--AP0118017

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITHIN THE COMPNS. RANGE Y SUB2 SI SUB2 O SUB7-Y SUB1.8 NEGATIVE OF SU40.2 SI SUB2 O SUB7, SYSTEMS WERE SYNTHESIZED EVERY 0.5 MOLE PERCENT. THE SAMPLES WERE SYNTHESIZED AT 1350-1450DEGREES 30TH IN A REDUCING ATM. AND IN A SILIT FURNACE. THE PHASE COMPN. OF THE PRODUCTS OBTAINED WAS STUDIED BY CRYSTALL OPTICAL ANAL., AND X RAY DIFFRACTION, AND IR SPECTROSCOPY. THE FOLLOWING CRYST. PHASES WERE PRESENT: SOLID SOLNS. WITH THE STRUCTURES BETA Y SUB2 SI SUB2 O SUB7 (COMPNS. Y SUB2 SI SUB2 O SUB7-Y SUB1.97 CE SUB0.03 SI SUB2 O SUB7), ALPHA Y SUB2 SI SUB2 O SUB7, AND A REGION OF SOLID SOLNS. DESIGNATED AS Y SUB2 SI SUB2 O SUB7 SOLID SOLNS. THE CRYSTAL STRUCTURE OF THE LAST SOLID SOLN. IS APPARENTLY IDENTICAL TO THE I P-TYPE TYPE STRUCTURE OF THE DIORTHOSILICATES. DUE TO THE WEAK CRYSTL. OF THE SAMPLES PREPD. BY SOLID PHASE SYNTHESIS, THE HOMOGENEITY REGION OF SOLID SOLNS. WITH THE BETA Y SUB2 SI SUB2 O SUB7 STRUCTURE WAS DETD. ON THE BASIS OF IR ABSORPTION SPECTRA. THE ALPHA Y SUB2 SI SUB2 O SUB7 CAN BE PREPD. BY QUENCHING THE SAMPLES AT GREATER THAN 1350DEGREES. THERE IS A REVERSIBLE BETA Y SUB2 SI SUB2 O SUB7 IN EQUILIBRIUM ALPHA Y SUB2 SI SUB2 O SUB7 PHASE TRANSITION AT 1300-1400DEGREES. THE CE SUB2 SI SUB2 O SUB7 M. CONGRUENTLY AT 1770DEGREES AND DOES NOT UNDERGO POLYMORPHIC PHASE TRANSFORMATIONS. THE US AND THE D. OF THE COMPNS. OF THE SYSTEM WERE DETD. ALSO DETD. WERE THE LIQUIDUS SOLIDUS CURVES FOR THE Y SUB2 SI SUB2 O SUB7-CE SUB2 SI SUB2 O SUB7 SYSTEM.   FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

1/2   021   UNCLASSIFIED   PROCESSING DATE--16OCT70
TITLE--SOLID SOLUTIONS IN THE Y SUB2 SI SUB2 O-CE SUB2 SI SUB2 O SYST
   SYSTEM -U-
AUTHOR-(04)-TOROPOY, N.A., ANDREYEV, I.F., SOKOLOV, A.L., SANDRKEVSKAYA,
   L.N.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 519-

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLID SOLUTION, YTTRIUM COMPOUND, SILICON COMPOUND, CERIUM
   COMPOUND, OXIDE, IR SPECTROSCOPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0841   STEP NO--UR/0363/70/006/003/0519/3523

CIRC ACCESSION NO--AP0118017
                         UNCLASSIFIED

USSR

FEDOROV, N. F., ANDREYEV, I. F., KASPARYAN, R. M., and SMORODINA, T. P.

"Phase Equilibria in the System Al_2O_3-Nb_2O_5"

Abstract: The phase diagram of the Al_2O_3-Nb_2O_5 system was constructed. The system contains three individual compounds. $AlNbO_4$, $AlNb_{11}O_{29}$, and $AlNb_{49}O_{124}$. The first compound melts with decomposition at 1569°C, the two others -- without decomposition -- at 1450 and 1460°C, respectively. The peritectic has a composition equal to 65 mol.% Nb_2O_5 + 35 mol.% Al_2O_3, while the eutectic corresponds to a composition of 73 mol.% Nb_2O_5 + 27 mol.% Al_2O_3 at 1425°C and 95 mol.% Nb_2O_5 + 5 mol.% Al_2O_3 at 1435°C.

1/1

- 4 -

USSR

ANDREYEV, I., Sotsialisticheskaya Industriya, May 71, p 4

a number of other enterprises against them. The first tidewater power station
and many power and hydrotechnical structures on the seas of the North and
South European parts of the USSR are now reliably protected against wood
borers and rock boring mollusks.

Increasing the biological resistance of furs, skins, and materials
which are either natural or made of plastics; the technology for manufacturing
paper that is resistant to biodamage; the method of high frequency disinfect-
ing of books; new methods of making antiseptic optical materials and lubri-
cants which do not corrode instruments; ways of combatting biological destroyers
of manuscript works, and so forth - this is a partial list of the topics of
the exhibition.

2/2

- 84 -

General

USSR

ANDREYEV, I.

"Protecting Ourselves Against..the Biosphere"

Moscow, Sotsialisticheskaya Industriya, May 71, p 4

Translation: In the USSR Academy of Sciences' Biology Pavilion at the Exhibition of the Achievements of the USSR National Economy, a new exhibit named "Biological Damage to Industrial Materials" is opening. Its displays tell of unexpected problems arising as a result of the extensive intrusion of man into the biosphere of the planet.

Just a few instances give an idea of the seriousness of the problem to which the exhibit is devoted. The death of the American astronaut Freeman, whose plane collided with a goose during a training slight, the explosion of an American rocket due to a collision with birds, destruction of port and shore structures and pipelines plugged with bacteria...

Since 1968, the Scientific Council on Theoretical Problems of Biological Damage to Materials has been working in the section of chemical-engineering and biological sciences of the Presidium of the USSR Academy of Sciences. The results of its activity comprise the basis of the exhibit.

Studying the ecology of the wood mollusk made it possible to protect the installation of the Volzhskaya Hydroelectric Station, the Dnepr Station, and

1/2

USSR

UDC 621.646.3(088.8)

KLIMOV, L. YA., SIDEL'NIKOV, P. N., ANDREYEV, G. N.

"Regulator of Gas Flow"

USSR Author's Certificate No 226990, filed 30 Mar 67, published 14 Jan 69 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 1, Jan 70, Abstract 1.32.734 P)

Translation: In order to simplify the circuit, the proposed regulator contains a functional converter to whose input a pressure gage is connected and to whose output is connected an amplifier with temperature transducer in a feedback circuit and a sum circuit, whose input is connected to the output of the amplifier and a pressure-drop transducer, and whose output is connected to control drive.

1/1

USSR

BROVKIN, V. A., et al., Otkryeiya, izobroteniya, pro------- -----
tovarnyye znaki, No 24, Aug 71, Author's Certificate No ------, ------
filed 1 Oct 69, published 9 Aug 71, p 200

of the RC circuit which is connected to the input of this ----- -----
and connecting it at the same time to the ------ ------ -- -- -----
sponding contact group of the above-mentioned ----. --- ----- -----
of these groups are connected to the oscillator ------ ------. ----
the input of one of the RC circuits is connect d to one of the ------
circuits, the input of the other RC circuit is connect d to the ------
supply circuit.

2/2

Oscillators a) Modulator

USSR

"A Very Low Frequency Pulse Oscillator"

Moscow, Otkrytiya, Izobreteniya, ...
No 24, Aug 7..., Author's Certificate No 211..., ...
69, published 9 Aug 7..., p...

Translation: This Author's Certificate introduces ...
pulse oscillator which contains two interesting ... In ...
a resistor is connected up ... block for discharge of a ... the
generator this ... in which one of ... con-
nected to the output of one of the ... circuits, ... de-
vice includes a relay and a two-thyristor ...
comparators. As a ... during ... of the ...
this pulse generator is ... to connected ...
the ... circuit of one of the thyristors, ...
of the relay ... such corresponds ...
the ... for the other comparator and ...

1/2

USSR

UDC: 621.379.4

BROVKIN, V. A., ANDREYEV G. N., SHERSHAKOV, A. P.

"An Amplifier"

USSR Author's Certificate No 321914, filed 14 Apr 70, published 24 Jan 72
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7,
Jul 72, Abstract No 7A80 P)

Translation: A low-frequency amplifier is proposed which contains input,
pre-output, and output stages based on transistors connected in a common
emitter circuit, and also a feedback circuit between the input and output
stages. To improve the operating stability of the amplifier and increase
its efficiency, the collector of the transistor in the output stage is
connected to the common line through a parallel network, one branch of
which is comprised of two series-connected resistors between which a
feedback circuit is connected, and to a grounded capacitor; the other
branch of the parallel network is comprised of a load resistor and a
grounded capacitor connected in series.   The other capacitor plates
are interconnected by an additional resistor. One illustration.

1/1

USSR

ANDREYEV, G. N., SHEVELEV, Yu. D., Tr. Sektsii po chisl. metodam v gaz. dinamike 2-go Mezhdunar. kollokviuma po gazodinamike vzryva i reagiru-yushchikh sistem, 1969. T. 1, Moscow, 1971, pp 227-246

surface of a solid with inverted cone angle of $\beta = 30°$ at a Mach number of $M \approx \infty$, and angles of attack of $\alpha \approx 15\text{-}30°$. It is assumed that the gas is perfect and that the temperature at the wall is predetermined. Bibliography of 6 titles. V. Ya. Shkadov.

2/2

- 17 -

USSR

UDC: 532.526

ANDREYEV, G. N., SHEVELEV, Yu. D.

"Concerning the Three-Dimensional Boundary Layer on a Segmental Solid at Supersonic Velocities"

Tr. Sektsii po chisl. metodam v gaz. dinamike 2-go Mezhdunar. kollokviuma po gazodinamike vzryva i reagiruyushchikh sistem, 1969, T. 1 (Works of the Section on Numerical Methods in Gas Dynamics, Second International Colloquium on Gasdynamics of Explosion and Reacting Systems, 1969, Vol 1), Moscow, 1971, pp 227-246 (from ZH-Mekhanika, No 7, Jul 72, Abstract No 7B677)

Translation: The authors consider the spatial boundary layer in a supersonic flow on a solid having the shape of an inverted cone spherically blunted on the leading end. The numerical method of finite differences is used. The initial differential equations are approximated by difference equations on a curvilinear computational grid with unequally spaced intersections. In selecting the computational grid, account is taken of strong localized changes in the curvature of the surface. The paper gives the results of calculations of drag and heat flux on the

1/2

USSR   UDC 532.526

ANDREYEV, G. N.

"Calculations of a Laminar Boundary Layer on the Line of Spreading of a Body
of Rotation"

Moscow, Nauch. tr. In-t mekh. Mosk. un-ta (Scientific Transactions of the
Institute of Mechanics of the Moscow University), No 19, 1972, pp 95-103
(from Referativnyy Zhurnal -- Mekhanika, No 4, 1973, Abstract No 4B350)

Translation: The results of a calculation of the boundary layer on the line of
spreading of a segmental body and a circular, blunt cone in a supersonic flow
of gas under an angle of attack are presented. The frontal section of the
segmental body is close to the spherical sector with a central angle of 6°,
the lateral surface is at an angular aperture of 5° to the surface of the reverse
cone. The contour has a continuously changing curvature with a minimal radius
of curvature, forming 4% of the sphere radius. The behavior of the boundary
layer was numerically investigated in the region of sharp change of contour
curvature. A comparison of the characteristics of a three-dimensional and
axial-symmetrical boundary layer on the line of spreading from the windward
side of the blunt cone was conducted for an ideal gas with a Prandtl number
equal to one, and a linear dependence of the dynamic viscosity coefficient on
temperature.

1/1

USSR

UDC: 534.8.081.7

ANDREYEV, G. I., KOBTSEVA, T. Ye., MIROTVORSKIY, V. S., Moscow

"Internal Friction and Heat Release in Structural and Tool Steels in the Presence of Intense Ultrasonic Vibrations"

Abstract: The paper describes an energy method of determining the internal friction of metals exposed to ultrasonic vibrations with a frequency of the order of 20 kHz at relative deformations of 10^{-4}-10^{-3}. Internal friction is related to amplitude for commercial iron and for steel grades 30 KhGSA, 40 KhNMA, 50 KhFA, ShKh15 and 3 Kh13 in various states. The heat treatment effect on the damping factor is investigated. The results of studies of ultrasonic heating of metals show that there are amplitude-temperature regions of increased internal friction in commercial iron and grade 30 KhGSA steel which are due to the development of slip bands and microstructure in the microstructure. The results of studies of the relation between heat treatment and the damping factor show that the proposed method of analysis may be useful in studying the dislocation nature of plastic deformation and defect accumulation of the fatigue type with high deformation amplitudes.

1/1

- 62 -

USSR   UDC 538.56:621.371.24

ANDREYEV, G. A., MAGID, R. M., Scientific Research Radio Physics Institute

"Effect of Intensity Fluctuations on Measuring the Angular Position of the
Radiation Source by the Optoelectronic Monopulse Method"

Abstract: An expression is obtained for the mean square error in measuring the
angular position of a remote radiation source caused by random amplitude fluc-
tuations as a result of atmospheric turbulence. The theoretical results and
experimental data presented permit estimation of the possibilities of the mono-
pulse method of measuring the angular position of an optical radiation source
in a medium with random inhomogeneities. Partially correlated amplitude
fluctuations essentially limit the possibilities of the monopulse method of
operative determination of the angular position of a radiation source.

1/1

Radar

USSR

UDC 621.391.82

ANDREYEV, G. A., LEVENETS, B. P., MAGID, R. M., KHOKHLOV, G. I., Gor'kiy
State University

"Effect of Additive and Multiplicative Noise on the Accuracy of Measuring the
Angular Position of a Radiation Source by Systems with Pulse-Duration Modula-
tion"

Abstract: Theoretical expressions were obtained for the mean square error in
measuring the angular position of a radiation source by the pulse-time method
under the effect of additive and multiplicative noise. The relative error
caused by multiplicative noise significantly exceeds that caused by additive
noise. This is explained by the fact that the multiplicative noise is not
equivalent to additive noise with respect to the parameters of the spectrum.
Multiplicative noise can be reduced by lowering the response threshold, in-
creasing the integration time by comparison with the correlation time or
attenuating the depth of the random modulation of the received signal. The
implemented measuring system provides an accuracy which is $\sqrt{2}$ times less than
the potential accuracy.
1/1

USSR

UDC 621.371.332.3

ANDREYEV, G. A., SAVCHENKO, V. P., SOKOLOV, A. V., and STROGAKOV, L. I.

"Using FM Signals of the Submillimeter Range for Revealing the Structure of Local Dispersion of an Extended Body"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses--collection of works) "Nauka," 1972, pp 111-116 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10G10)

Translation: The resolving power and noise immunity of secondary radiation reception from locally dispersive extended bodies are analyzed. It is noted that complex continuous signals (particularly linearly frequency modulated signals) are used to improve the sensitivity. To obtain information regarding the level and position of the dispersive elements using LFM signals, coherent reception with subsequent nonlinear transformation of the reference and dispersed signals as well as low-frequency filtration is required. Under large-scale experimental conditions, a radial resolving power of 2.7 cm is realized with a signal/noise ratio of about 23 dB. Four illustrations, bibliography of three. N. S.

1/1

CIRC ACCESSION NO--AP0115243
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A FAST ACTING CURRENT PREAMPLIFIER
   IS DESCRIBED FOR A SURFACE BARRIER TRANSISTORIZED DETECTOR.   THE
   PREAMPLIFIER IS ASSEMBLED FROM HIGH FREQUENCY TRANSISTORS AND IS
   DESIGNED TO PROVIDE A FINE CORRELATION (ACCORDING TO CO TRAVELLING
   PRIME3 HE PARTICLES) IN A SYSTEM OF ELECTRONIC COLLIMATION OF N FROM THE
   D D REACTION WITH A RESOLN. TIME OF SEVERAL NSEC. THE AMPLIFICATION
   COEFF. EQUALS SIMILAR TO 599, THE TIME OF PULSE INCREASE AT THE OUTLET
   IS LESS THAN 15 NSEC. THE CURRENT AMPLIFICATION RESULTS IN AN 8 FOLD
   INCREASE OF SIGNALS FROM PRIME3 HE PARTICLES OVER BACKGROUND NOISE.
      FACILITY: KIEV. GOS. UNIV. KIEV. USSR.

TITLE--RAPID CURRENT PREAMPLIFIER FOR USE IN AN ELECTRON COLLIMATING
   SYSTEM FOR NEUTRONS -U-

AUTHOR-(03)-ANDREYEV, E.A., SITKO, S.P., SHEVCHENKO, V.A.

COUNTRY OF INFO--USSR

SOURCE--PRIB. TEKH. EKSP. 1970, 1, 132-3

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--NEUTRON BEAM, COLLIMATUR, PREAMPLIFIER, HELIUM ISOTOPE,
   SEMICONDUCTOR DETECTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1226   STEP NO--UR/0120/70/001/001/0132/0133

CIRC ACCESSION NO--AP0115243
                         UNCLASSIFIED

USSR

ANDREYEV, D. S., et al., Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy
Fiziki, Vol 11, No 8, 20 Apr 70, pp 369-370

In contrast to other work in which the spectra of γ rays were registered in
accordance with ions selected by energy, in the present work the spectra of back-
ward-scattered ions were measured in accordance with γ-quanta selected by
energy. The value of $Q_2{}^+$ was determined as:

$$Q_2{}^+ = -(0.53 \pm 0.17) \text{ barn.}$$

This contrasts with three other works in which the value of $Q_2{}^+$ lies in the limits
- (0.42 + 0.90) barn and a later work in which the value of $Q_2{}^+$ is close to zero.
6 ref. Received by editors 10 March 1970.

2/2

Nuclear Physics

A

USSR

ANDREEV, D. S., GUSINSKIY, G. M., YEROKHINA, K. I., MIRNYANU, I. K. H.,
LEMBERG, I. K. H., CHUGUNOV, I. H., Physico-Technical Institute imeni A. I. Ioffe,
Academy of Sciences, USSR

"Quadrupole Moment of the Nucleus ^{114}Cd in the First Excited State"

Abstract: In the present work a cyclotron is used for the first time to determine
the value of the quadrupole moment (Q_2+) of the first excited state in ^{114}Cd. In
order to eliminate the effect of instability of the intensity and energy of
accelerated ions on the results of measurements, the experiments employed simul-
taneous acceleration of the singly charged α particles and the triply charged
ions of carbon with energies of 8 and 24 Mev respectively. In this case the value
of the Coulomb parameter ξ for both kinds of particles is practically identical
and errors originating during comparison are minimal. In separate experiments it
was shown that during simultaneous acceleration the ratio of the energies of the
light and heavy particles is preserved with a precision not worse than 0.1 percent,
and the error of determining Q_2+ connected with this does not exceed 10 percent.

1/2

CIRC ACCESSION NO--AP0137604

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE QUADRUPOLE MOMENT Q SUB2
   POSITIVE) OF PRIME114 CD WAS DETD. IN A CYCLOTRON BY USING THE
   SIMULATANEOUS ACCELERATION OF SINGLY CHARGED 8-MEV ALPHA PARTICLES AND
   TRIPLY CHARGED 24 MEV C IONS; Q SUB2 POSITIVE EQUALS MINUS (0.53 PLUS OR
   MINUS 0.17) B.   FACILITY: FIZ.-TEKH. INST. IM. IOFFE, LENINGRAD,
   USSR.

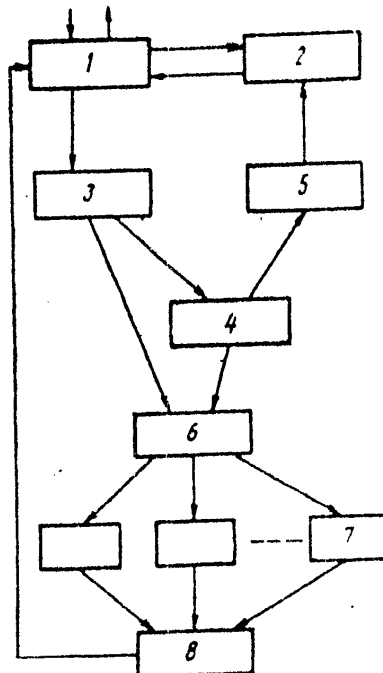UNCLASS.   .D

1/2   022   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--QUADRUPOLE MOMENT OF CADMIUM 114 IN THE FIRST EXCITED STATE -U-

AUTHOR-(05)-ANDREYEV, D.S., GUSINSKIY, G.M., YEROKHINA, K.I., KUDOYAROV,
   M.F., LEMBERG, I.KH.
COUNTRY OF INFO--USSR

SOURCE--PIS'MA ZH. EKSP. TEOR. FIZ. 1970, 11(8), 369-70

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--EXCITED STATE, CADMIUM ISOTOPE, CYCLOTRON, QUADRUPOLE MOMENT,
   CHARGED PARTICLE, ALPHA PARTICLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/0515   STEP NO--UR/0386/70/011/008/0369/0370

CIRC ACCESSION NO--AP0137604
                         UNCLASSIFIED

Acc. Nr.

ANDREYEV D N

AP0055644

Abstracting Service:
CHEMICAL ABST. 6-70

Ref. Code
UR 0460

— 111878y Stereospecific polymerization of trimethylsilyl
methacrylate by butyllithium. Andreev, D. N.; Krasulina, V.
N.; Mikhailova, N. V.; Nekrasova, T. I.; Novoselova, A. V.;
Smirnova, G. S. (Inst. Vysokomol. Soedin., Leningrad, USSR)
Vysokomol. Soedin., Ser. B 1970, 12(2), 123-6 (Russ). The
polymn. of $H_2C:CMeCO_2SiMe_3$ (I) in the presence of BuLi gave
90-100% of the corresponding polymer (II), which is extremely
hygroscopic and is hydrolyzed by air moisture. Ir and NMR
spectroscopy of poly(methacrylic acid) (III), obtained by the
mild hydrolysis of II, showed that $\leqslant 65\%$ of all segments are iso-
tactic. The polymn. of I is recommended as a convenient meth-
od for the prepn. of isotactic III.   CPJR

REEL/FRAME
19840946

AA0044628

19771315

ANDREYEV $\Delta.\Delta$.

AA0044628

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

$\frac{2}{70}$

243685 TRANSMISSION SET OF A PULSE CODING SYSTEM.
The distributor of the data units is connected
to one input of the module testing these units. The
other inputs of the module testing the data units
are connected to the distributor of the data units'
digits. The outputs of the data units are connected
to the inputs of the coding module. One input of
the switching module is connected to the line
module and the other one to the module checking
the code. The output of the switching module is
connected to the line module.
16.2.68 as 1219005/18-24.D.D.ANDREYEV et al(6.10.69)
Bul 17/14.5.69. Class 21c, 74b. Int.Cl.G 05f,
G 08c.

4

AUTHORS: Andreyev, D. D.; Milenko, E. B.; Rudenko, V. N.;
Yurkov, V. A.; Gavrilyuk, V. M.

Institut Avtomatiki
1/2

19771314

USSR

UDC 669.295.053.28

ANDREYEV, A. YE., MAL'SHIN, V. M.

"Problems of Developing a Magnesiathermic Method of Obtaining Titanium"

V sb. Metalloterm. protsessy v khimii i metallurgii (Metallothermic Processes in Chemistry and Metallurgy -- collection of works), Novosibirsk, Nauka Press, 1971, pp 93-96 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G214)

Translation: Basic results of the scientific research work aimed at improving the apparatus and technological process of making sponge titanium are discussed. The means of further development of the magnesiathermic method of obtaining Ti and the economic aspects of this problem are demonstrated.

1/1

ANDREYEV, A. V.

"Frequency Dependence of Losses in Radio Wave Scattering by
Turbulent Heterogeneities in the Troposphere"

Moscow, Radiotekhnika, No 11, 1972, pp 56-

Abstract: The frequency dependence of losses in the way radio wave
propagation lines due to scattering in turbulent
does not coincide with the frequency dependence
the turbulence spectrum in the troposphere. The
paper is to shed further light on the reason for
the cause of which is not yet clear. In
author finds an appropriate formula for
of the frequency. He also compares this result
from
ments and finds that the difference between the
in the
quency is in most cases close to the
the scattering of the waves by

1/

USSR

UDC 632.951:630.576.8

KOLESHKO, O. I., and ANDREYEV, A. S., Belorussian State University and
Belorussian Scientific Research Institute of Plant Protection

"The Effect of Organophosphoric Insecticides on Soil Microflora in the Rhizo-
sphere of Hops and on the Crude Hops Crop"

Abstract: Organophosphoric insecticides amiphos, rogor, and anthio depressed
the development of the ammonificators and lowered the ammonification capacity
of the soil only in the first few days after the application. With time the
bactericidal activity of these preparations dropped rapidly so that after one
month the number of microorganisms returned to that of control level.
Amiphos, rogor and anthio may be applied at doses of 2 g under the plant
bushes to control hop aphids.'

1/1

USSR

TRESKUNOV, S. L., ANDREYEV, A. P., USSR Author's Certificate No 295909,
Filed 2/04/69, Published 9/04/71.

the stream is caused both by collision with the reflected stream and by the
increase in pressure in the area between the stream and the wall due to the
arrival of the reflected flow in this area. This creates a high output pres-
sure in one output channel and a lower pressure in the other channel. When
a control signal is applied, the element switches and the opposite levels are
established in the output channels. The shape of the flow in the new stable
state of the element is symmetrical with respect to the initial flow. 1 Figure.

2/2

- 40 -

USSR   UDC 681.325.65:525

TRESKUNOV, S. L., ANDREYEV, A. P.

"A Fluidic Logic Element"

USSR Author's Certificate No 295909, Filed 2/04/69, Published 9/04/71,
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychis-
litel'naya Tekhnika, No 11, 1971, Abstract No 11 A75 P).

Translation: There are well-known fluidics elements whose operation is based
on the Coanda effect. The shortcomings of these elements include their low
speed and efficiency at low supply pressures. In the element suggested, there
is a protuberance on at least one of the walls of the operating chamber.
This amplifies the internal feedback in the element, increasing its operating
stability and providing reliable switching of the element at lower supply
pressures. At the same time, it is possible to reduce the length of the walls
of the operating chamber and thereby to increase the speed of the element. Air
is fed to the supply nozzle under pressure, so that a stream of air flows from
the nozzle. When the stream reaches the divider, a portion of the flow is split
off by the bent deflector and sent to the area between the stream and the wall,
flows along it, is reflected by the surface of the protuberance, and collides
with the stream, causing it to be deflected to the other wall. Deflection of

1/2

USSR   UDC 621.313.333:538.4

ANDREYEV, A. M., BARANOV, G. A., FOLUBOVICH, G. P., POTEMIN, Yu. V.

"Cylindrical Induction Pump with Cooled Internal Magnetic Conductor"

Riga, Magnitnaya Gidrodinamika, No 3, Jul-Sep 72, pp 150-151.

Abstract: The authors attempted to develop a cylindrical induction pump
with a reliable, easy-to-use cooling system for the internal magnetic cir-
cuit, equal or nearly equal to traditional designs in hydraulic properties.
An example diagramed for pumping liquid metal coolants at 850°C can deliver
326 m^3/hr and develop a pressure of 4 kg/cm^2.

1/1

UNCLASSIFIED   PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054323
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AIR PLASMA SE BI COATED AL
STRUCTURE WAS STUDIED; HIGH FREQUENCY PULSED EXCITATION WAS USED FOR THE
AIR PLASMA (ELECTRON CONCN. 10 PRIME9 MINUS 10 PRIME11-CM PRIME3) IN
CONTACT WITH AN AMORPHOUS SE LAYER (SIMILAR TO 50 MU THICK, WITH
RESISTIVITY 10 PRIME 13 OHM-CM). WITH DECREASING ELECTRON CONCN. IN THE
PLASMA, THE QUADRATIC TYPE V A CHARACTERISTIC BECOMES LINEAR; IT IS
EXPLAINED AS A RESULT OF LOW EMISSIVITY OF THE PLASMA CATHODE. WITH
HIGHLY CONCD. PLASMA, THE CURRENT PASSING THROUGH THE SYSTEM IS LIMITED
BY A SPACE CHARGE, WHILE IN THE CASE OF A LOW CONCN. PLASMA, THE SPACE
CHARGE NEAR THE CATHODE DECREASES AND A MORE HOMOGENEOUS DISTRIBUTION OF
THE-INJECTED ELECTRONS RESULTS. A FORMULA WAS FOUND FOR THE C.D. AS A
FUNCTION OF THE VOLTAGE, WHICH AGREES WITH THE EXPT.

UNCLASSIFIED .

1/2   039   UNCLASSIFIED   PROCESSING DATE--18SEP70
TITLE--VOLT AMPERE CHARACTERISTICS OF A PLASMA SELENIUM METAL STRUCTURE
  -U-
AUTHOR--ANDREYEV, A.D.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(1), 35-9

DATE PUBLISHED-------70

SUBJECT AREAS--AGRICULTURE, MATERIALS

TOPIC TAGS--SELENIUM, PLASMA STRUCTURE, VOLT AMPERE CHARACTERISTIC,
  BISMUTH, ALUMINUM, ELECTRON DENSITY, METAL PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1467   STEP NO--UR/0449/70/004/001/0035/0039

CIRC ACCESSION NO--AP0054323
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0111600

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF A GLOW DISCHARGE ON
  THE CONST. P. D., V, DUE TO THE CONTACT OF A LAYER OF SE, 70 MU THICK,
  WITH THE PLASMA OF THE POS. COLUMN WAS STUDIED. THE CONCN. AND TEMP. OF
  ELECTRONS AT 2 MM HG WERE 5 TIMES 10 PRIME9 PER CM PRIME3 AND 2 TIMES 10
  PRIME4DEGREESK, RESP. INCREASING THE PRESSURE, P, LOWERED V. IT ALSO
  INCREASED AS THE DISCHARGE CURRENT, I, INCREASED FROM 0.5 TO 1.5 MA.
  LOWERING P AND INCREASING I INCREASED THE TEMP. OF ELECTRONS IN THE POS.
  COLUMN. THERMAL DIFFUSION OF PLASMA IN SE MAY CAUSE A CONST. POTENTIAL
  COMPARABLE WITH THAT NEAR THE WALL. THE COND. OF SE WAS AN EXPENENTIAL
  FUNCTION OF THE TEMP.   FACILITY: BELORUSS. GOS. UNIV. IM. LENINA,
  MINSK, USSR.

UNCLASSIFIED

TITLE--CONSTANT DIFFERENCE IN POTENTIALS IN A LAYER OF AMORPHOUS SELENIUM
   ADJACENT TO PLASMA -U-
AUTHOR-(02)-ANDREYEV, A.D., KUZMENKO, L.V.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. FIZ. MAT. NAVUK 1970, (1),
   129-32
DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GLOW DISCHARGE, AMORPHOUS SELENIUM, PLASMA DENSITY, PLASMA
   ELECTRON TEMPERATURE, CURRENT DENSITY, THERMAL DIFFUSION, ELECTRIC
   POTENTIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0407   STEP NO--UR/0428/70/000/001/0129/0132

CIRC ACCESSION NO--AP0111600
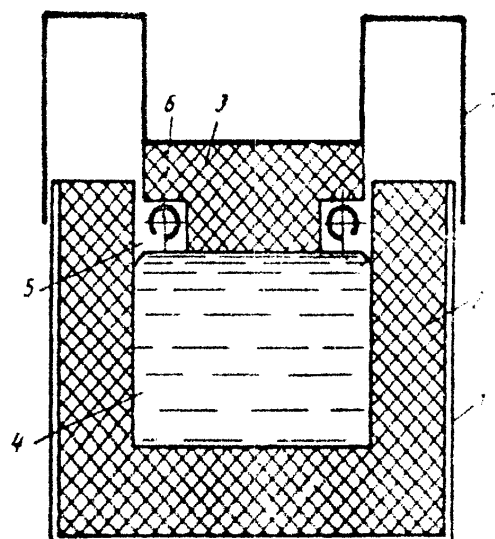   UNCLASSIFIED

CIRC ACCESSION NO--AP0115043

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE V-A CHARACTERISTICS WERE
  COMPARED FOR THE CONTACT OF A HIGH FREQUENCY PULSED DISCHARGE PLASMA
  EXCITED IN AIR WITH 50 MU LAYERS OF AMORPHOUS SE, POLYCRYST. SE, OR
  METAL. THE CHARGED PARTICLE CONCN. IN THE PLASMA WAS 10 PRIME9 -CM
  PRIME3 AND THE ELECTRON TEMP. WAS 2 EV.   THE V-A CHARACTERISTICS OF THE
  CONTACT OF THE PLASMA WITH THE POLYCRYST. SE AND THE METAL ARE SIMILAR.
  FOR THE AMORPHOUS SE THE CONTACT HAS RECTIFYING PROPERTIES. FROM A
  COMPARISON OF THE CHARACTERISTICS IT IS CONCLUDED THAT THE APPEARANCE OF
  THE VALVE EFFECT IS LARGELY DUE TO THE INJECTION OF ELECTRONS FROM THE
  PLASMA INTO THE LAYER OF AMORPHOUS SE.   FACILITY: BELORUSS. GOS.
  UNIV. IM. LENINA, MINSK, USSR.

UNCLASSIFIED

TITLE--VOLT AMPERE CHARACTERISTICS OF A PLASMA LAYER OF AMORPHOUS OR
  POLYCRYSTALLINE SELENIUM CONTACT -U-

AUTHOR-(02)-CHAN, K.L., ANDREYEV, A.O.

COUNTRY OF INFO--USSR

SOURCE--ZH. TEKH. FIZ. 1970, 40(3), 647-9

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--VOLT AMPERE CHARACTERISTIC, POLYCRYSTAL, SELENIUM, PLASMA
  DISCHARGE, HIGH FREQUENCY DISCHARGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1022   STEP NU--UR/0057/70/040/003/0647/0649

CIRC ACCESSION NO--AP0115043
                          UNCLASSIFIED

AA0038315

4.6.66 as 1082035 22-2. MAKAROV.G.S.et al. 19.5.68
Bul 10/10.3.69. Class 31b. Int.Cl.B 22d

19731412

AA0038315

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, /-70

238730 LAUNDER FOR MOLTEN ALUMINIUM AND ITS ALLOYS
has slots (5) and tubes (6) in its lid (3)
to pipe protective gas in, at the same time is
cowled (7) to reduce operative gas losses. The lid
floats freely on the actual molten liquid in the
launder and thus prevents impurities entering, at
the same time protecting from the atmosphere.

18

AUTHORS: Makorov. G. S.; Andreyev. A. D.; Zakharevich, N. I.,
Alekhin, A. A.; and Kirsanov, V. I.

19731411

Analysis and Testing

USSR

UDC 669.716:621.745.55:66.067

ANDREYEV, A. D., MAKAROV, G. S., and GOGIN, V. B.

"Analysis of Some Regularities of the Degassing Process of a Melt by Its Blowing Through With an Inert Gas"

Metallovedeniye Splavov Legkikh Metallov-Sbornik, Moscow, "Nauka", 1970, pp 72-80, resume

Translation: A kinetic equation has been developed which characterizes the degassing process by blowing through a melt with an inert gas. The effect of various factors on degassing is discussed. It is demonstrated that the efficiency of using an inert gas by blowing a melt through tubes in a reverberating furnace is not great. It can be increased by size reduction of bubbles of the inert gas and creation of conditions providing a contact of the whole melt mass with the inert gas. Five figures, two tables, seven bibliographic references.

1/1

USSR

UDC 669.71.412

ANDREYEV, A. D., MAKAROV, G. S., GOGIN, V. B.

"Analysis of Some Laws of the Process of Degassing a Melt When Blowing It With an Inert Gas"

Metalloved. splavov legkikh met -- V sb. (Physical Metallurgy of Light Metal Alloys -- collection of works), Moscow, Nauka Press, 1970, pp 72-80 (from RZh-Metallurgy, No 4, Apr 71, Abstract No 4G175)

Translation: A kinetic equation is derived which describes the process of degassing aluminum during blowing of the melt by an inert gas. The effect of various factors on the degassing process is investigated. The effectiveness of using an inert gas when blowing the melt through tubes in a reverberatory furnace is low. It can be improved by making the bubbles of inert gas smaller and creating conditions insuring contact of the entire mass of the melt with the inner gas. There are 5 illustrations, 2 tables, and a 7-entry bibliography.

1/1

USSR   UDC 669.715.004.82

ANDREYEV, A. D.

"On the Role of Secondary Aluminum for Malleable Alloys"

Moscow, Tsvetnyye Metally, No. 7, Jul 71, pp 53—55

Abstract: The recommended collection of waste products of alu-
minum according to their grade of quality is considered to save
approximately 200 tons of primary aluminum per 1,000 tons of the
rolled stock. Measures to be conducted to regain the principal
mass of waste produced by processing the rolled stock are indi-
cated. They include the revision of the All-Union State Standards
with respect to secondary aluminum, scrap metal, and waste pro-
ducts, the lowering of Fe, Si, and Zn contents to 0.5 , 0.5 ,
and 0.3 %, respectively, for the AVD-1 alloys (GOST 1131-67),
and the introduction of an additional alloy with Fe. Si, and Zn
contents up to 0.3 , 0.3 , and 0.1 % , respectively. An increase
of the price of high-quality secondary aluminum is also recommen-
ded, in order to improve the general balance of aluminum. Three
tables.

1/1

- 1 -

USSR UDC: 669.2:669.016.54/55

ANDREYEV, A. D., MAKAROV, G. S.

"Some Characteristic Features of the Development of the Technology of Refining of Nonferrous Alloys"

Moscow, Tsvetnyye Metally, No 7, Jul 73, pp 64-66.

Abstract: The current state of refining of nonferrous alloys to remove gasses and nonmetallic inclusions is studied. Certain problems are stated concerning effective application of various refining methods. Methods include blowing of gasses, treatment with fluxes in a floating unit, treatment with fluxes with filtration through glass fabric, electric-flux refining, blowing of a stream of neutral gas through the melt during pouring and vacuum treatment in a mixer.

1/1

2/2   028   UNCLASSIFIED   PROCESSING DATE--18SEP70
CIRC ACCESSION NO--AP0100850
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME COMPDS., SB SUB2 SE SUB3,
   INSE, AND CUSBSE SUB2 HAVE BEEN STUDIED WHICH HAVE RELATIVELY LOW ELEC.
   CONDS. (IS SMALLER THAN 100 MHO-CM) IN THE LIQ. STATE. EXPTL. RESULTS
   ABOVE AND BELOW THE M.P. ARE REPORTED AND DISCUSSED FOR THE ELEC. COND.,
   HALL COEFF., THERMOPOWER AND THE THERMAL COND. RESULTS OF A STUDY OF
   THE THERMAL MOTION OF LIQ. AND SOLID GA BY NEUTRON SCATTERING ARE ALSO
   PRESENTED.

UNCLASSIFIED

TITLE--OBSERVATIONS OF TRANSPORT PHENOMENA AND OF ATOMIC MOTION IN THE
   LIQUID PHASE -U-

AUTHOR-(05)-REGEL, A.R., ANDREEV, A.A., KOTOV, B.A., MAMADALIEV, M.,
   OKUNEVA, N.M.

COUNTRY OF INFO--USSR

SOURCE--J. NON-CRYST. SOLIDS 1970, 4(1) 151-60

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--GALLIUM, TRANSPORT PHENOMENA, FLUID STATE, ATOMIC PROPERTY,
   THERMAL CONDUCTIVITY, NEUTRON SCATTERING, SELENIDE, INDIUM COMPOUND,
   COPPER COMPOUND, SOLID STATE, ANTIMONY COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/0364   STEP NO--NE/0000/70/004/001/0151/0160

CIRC ACCESSION NO--AP0100850
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0125370
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL DETERMINATION OF THE
    BOUNDARY CONDITIONS REQUIRED FOR THE SOLUTION SYSTEM OF EQUATIONS OF
    MOTION, DISCONTINUITY EQUATION, AND ENERGY EQUATION DESCRIBING HEAT
    TRANSFER IN THE GRADIENT FLOW REGION ARISING WHEN A PLANE ISOTHERMAL
    TURBULENT JET IMPINGES ON PLATE SITUATED NORMAL TO THE FLOW. THE
    BOUNDARY CONDITIONS ARE OBTAINED IN THE FORM OF A UNIVERSAL RELATION
    BETWEEN THE VELOCITY AT THE OUTER BOUNDARY OF THE BOUNDARY LAYER, THE
    COORDINATE ALONG THE PLATE, AND THE SPACING BETWEEN THE PLATE AND THE
    NOZZLE. FORMULAS FOR CALCULATING THE HEAT TRANSFER COEFFICIENT IN A
    LAMINAR BOUNDARY LAYER ARE DERIVED. A SUBSTANTIAL DISCREPANCY IS FOUND
    TO EXIST BETWEEN THE EXPERIMENTAL AND THEORETICAL RESULTS. AN ANALYSIS
    OF THE CHANGES IN THE EXPERIMENTAL HEAT TRANSFER COEFFICIENT NEAR THE
    SPREADING LINE AS A FUNCTION OF THE SPACING BETWEEN THE NOZZEL AND THE
    PLATE, AND THE INFLUENCE OF THIS SPACING ON THE DEGREE OF TURBULENCE
    INDICATES THAT THE RELATION BETWEEN THIS COEFFICIENT AND THE DEGREE OF
    TURBULENCE MAY BE CONSIDERED TO BE LINEAR IN THE FIRST APPROXIMATION.
    THIS RESULT IS USED AS A BASIS FOR DERIVING FORMULAS FOR THE HEAT
    TRANSFER COEFFICIENT IN THE GRADIENT FLOW REGION UNDER CONSIDERATION.
         FACILITY: NAUCHNO-ISSLEDOVATEL'SKII INSTITUT STROITEL'NOI FIZIKI;
    MOSKOVSKOE VYSSHEE TEKHNICHESKOE UCHILISHCHE, MOSCOW, USSR.

UNCLASSIFIED

TITLE--INVESTIGATION OF HEAT TRANSFER IN A GRADIENT FLOW REGION FOR PLANE
   TURBULENT JET IMPINGING ON PLATE SITUATED NORMAL TO THE FLOW -U-

AUTHOR-(04)-ANDREYEV, A.A., DAKHNO, V.N., SAVIN, V.K., YUDAYEV, B.N.

COUNTRY OF INFO--USSR

A

SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, APR. 1970, P. 631-637

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER, TURBULENT FLOW, LAMINAR BOUNDARY LAYER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1753   STEP NO--UR/0170/70/018/000/0631/0637

CIRC ACCESSION NO--AP0125370
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0131452
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF EXPERIMENTS IN WHICH
  PARAFFIN COATED PLATES WERE USED TO VISUALIZE THE FLOW PATTERN FORMED BY
  AN IMPINGING TURBULENT AIR JETS EXPELLED FROM TWO DIMENSIONAL (135 TIMES
  15 MM) AND AXISYMMETRIC (30 MM DIAM) NOZZLES. THE VELOCITY OF THE JETS
  VARIED BETWEEN 30 AND 100 M-SEC. THE JET TEMPERATURE WAS 100 DEG C.
  THE RESULTS INDICATE THAT THE INCREASED HEAT TRANSFER RATE AT THE
  FORWARD STAGNATION POINT (SPREADING LINE) IS ASSOCIATED WITH THE
  FORMATION OF STABLE VORTEX SYSTEM IN WHICH THE VORTICES ARE ORIENTED
  ALONG THE LINES OF FLOW. UNDER THE ACTION OF THIS SYSTEM, THE TWO
  DIMENSIONAL BOUNDARY LAYER FLOW BECOMES A THREE DIMENSIONAL FLOW,
  LEADING TO A SUBSTANTIAL INCREASE IN THE HEAT TRANSFER RATE.

UNCLASSIFIED

TITLE--CHARACTERISTICS OF HEAT TRANSFER NEAR THE STAGNATION POINT FOR A
   TURBULENT JET IMPINGING ON A PLATE SITUATED NORMAL TO THE FLOW -U-
AUTHOR-(05)-ANDREYEV, A.A., DAKHNO, V.N., SAVIN, V.K., TSIRLIN, O.V.,
   YUDAYEV, B.N.
COUNTRY OF INFO--USSR

SOURCE--MASHINOSTROENIE, NO. 3, 1970, P. 57-60

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAT TRANSFER RATE, STAGNATION POINT, TURBULENT JET, FLAT
   PLATE, PARAFFIN WAX, FLOW VISUALIZATION, FLOW VELOCITY, VORTEX FLOW,
   BOUNDARY LAYER FLOW, TWO PHASE FLOW

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0865   STEP NO--UR/0418/70/000/003/0057/0060

CIRC ACCESSION NO--AP0131452
                    UNCLASSIFIED

USSR

however, does not exclude the electron mechanism as initiating the switching process. The studies of fluid semiconductors show that a structural phase transition is not compulsory for manifestation of the effect. 9 fig. 9 ref. Received by editors, 14 July 1971.

2/2

ANDREYEV, A.A., ALEKSEYEV, V.A., LEBEDEV, E.A., MAHADALIYEV, M., MELEKH, B.T.,
REGEL, A.R., RYZHKOV, YU.F. [Institute Of Semiconductors, Academy Of Sciences,
USSR, Leningrad]

"Switching Effect In Fluid Semiconductors"

Abstract: The switching effect is studied in a number of fluid semiconductors
and the voltampere characteristics are shown for fluid Se ($410°$ C), solid and
fluid Sb_2S_3 (460 and $570°$ C) and As_2So_3 up to softening temperature ($170°$ C) and
above ($210°$ C). The circuit for measuring the voltampere characteristics of the
switching effect is described. The high stability is emphasized of the switching
effect in Se and Sb_2S_3 over a wide range of temperatures. An illustration is
presented of relaxation oscillations in fluid selenium with a frequency of 10 MHz
at a temperature of $230°$ C. The results of the observations show that the switch-
ing effect is also found in fluid semiconductors. The effect is consistently ob-
served over a wide range of temperatures. The effect is observed for materials
with various values of the absolute conductivity from 10^{-9} (Se) to 10^{-1} ohm^{-1} x
cm^{-1} (Sb_2S_3). By a combination of the relationships revealed, the switching
effect at high temperatures carries a mainly thermal character. This statement,
1/2

2/2   042   UNCLASSIFIED   PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0101737

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR STUDIED THE ACTION OF
METANITROCHLORBENZOL (MNCB) AT CONCENTRATIONS OF 0.08, 0.008 AND 0.004
MG-M PRIME3 AND THAT OF 3,4,DICHLORANILIN (DCA) AT CONCENTRATIONS OF
0.08, 0.03 AND 0.015 MG-M PRIME3 ON THE FUNCTIONING OF THE CENTRAL
NERVOUS SYSTEM (MOTOR CHRONAXY OF ANTAGONIST MUSCLES) AND ON METABOLISM
OF BLOOD PIGMENTS. THE ACTION OF MNCB WAS COMPARED WITH THAT OF
NITROBENZOL, AND THE ACTION OF 3,4,DCA WITH THAT OF ANILIN AND PARA
CHLORANILIN. THE THRESHOLD AND SUBTHRESHOLD CONCENTRATIONS OF MNCB AND
3,4,DCA WERE DETERMINED BY INTRODUCTING THESE SUBSTANCES INTO THE BODY
BY THE INHALATION ROUTE FOR A LONG PERIOD OF TIME.

UNCLASSIFIED

1/2   042   UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--PECULIAR FEATURES AND CRITERIA OF THE TOXIC ACTION OF CERTAIN NITRO
   AND AMINO DERIVATIVES OF BENZOL -U-
AUTHOR--ANDREYESHCHEVA, N.G.

COUNTRY OF INFO--USSR

SOURCE--GIGIYENA I SANITARIYA, 1970, NR 4, PP 44-47

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TOXICOLOGY, CENTRAL NERVOUS SYSTEM, METABOLISM, BIOLOGIC
   PIGMENT, BLOOD CHEMISTRY, AIR POLLUTION, ANILINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/1682   STEP NO--UR/0240/70/000/004/0044/0047

CIRC ACCESSION NO--AP0101737
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0125248

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHOTO AND RADIOLUMINESCENCE OF
  BENZENE AND NAPHTHALENE (I) IN CYCLOHEXANE, DECALIN, PHME, AND ETOH AT
  77DEGREESK WERE MEASURED; THE PHOSPHORESCENCE SPECTRA WERE SEP.
  RECORDED, AND THE PHOSPHORESCENCE FLUORESCENCE RATIO DURING X RAY AND
  PHOTOEXCITATION WAS ESTD.

1/2   021   UNCLASSIFIED   PROCESSING DATE--30OCT70

TITLE--RADIOLUMINESCENCE OF ORGANIC MATTER. VI. FLUORESCENCE AND
   PHOSPHORESCENCE IN FROZEN SOLUTIONS DURING X RAY AND PHOTOEXCITATION -U-

AUTHOR-(04)-ANDREYESHCHEV, YE.A., KILIN, S.F., ROZMAN, I.M., SPURNY, F.

CCUNTRY OF INFO--USSR

A

SCURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 662-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--RADIOLUMINESCENCE, X RAY, BENZENE, NAPHTHALENE,
   PHOSPHORESCENCE, FLUORESCENCE, LIGHT EXCITATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1626   STEP NO--UR/0048/70/034/003/0662/0666

CIRC ACCESSION NO--AP0125248
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0124631

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THEORETICALLY DERIVED
     EXPRESSION FOR THE DISSOCN. OF THE EXCITED STATE OF THE DONOR MOLS. IN
     THE PRESENCE OF ACCEPTOR MOLS., IN WHICH THE ENERGY TRANSFER OCCURS
     EITHER THROUGH A LONG DISTANCE MECHANISM (DIPOLE DIPOLE INTERACTION) OR
     THROUGH MOL. COLLISION (EXCHANGE INTERACTION), WAS STUDIED BY EXAMG. 3
     PAIRS OF DONOR ACCEPTOR SYSTEMS IN SOLVENTS OF VARIOUS VISCOSITY. THE
     SYSTEMS: (A) DIPHENYL ETHER-CYCLOHEXANONE IN ETHYLENE GLYCOL AND (B) IN
     ETOH; (C) AND (D), RESP., DIPHENYL ETHER-2,5,DIPHENYLOXAZOLE IN THE SAME
     SOLVENTS; (E) 2,NAPHTHOL-1,3,5,TRIPHENYLPYRAZOLINE IN ACOET, (F) ETOH,
     AND (G) N,BUOH, OR (H), (J), AND (K), RESP., IN THESE SOLVENTS BUT
     PURGED WITH N.   THE ABSORPTION SPECTRA, FLUORESCENCE SPECTRA, QUANTUM
     YIELDS, DONOR FLUORESCENCE DECAY AND QUENCHING, AND SENSITIZATION OF THE
     ACCEPTOR FLUORESCENCE WERE MEASURED, YIELDING VALUES FOR ACCEPTOR
     CONCNS. FOR HALFQUENCHING THE FLUORESCENCE AND DATA ON THE MECHANISM OF
     ENERGY TRANSFER. GOOD AGREEMENT OF THEORY WITH EXPT. WAS FOUND FOR A
     AND B, WHERE THE LONG TANGE MECHANISM DOES NOT CONTRIBUTE AND ALSO IN D
     WHERE THIS MECHANISM PREVAILS. FOR E-K THE COLLISION MECHANISM IS
     NEGLIGIBLE. GOOD AGREEMENT WITH EXPT. IS FOUND FOR E-J BUT NOT FOR G
     AND K. THIS COULD NOT BE EXPALINED.   THE CONTRIBUTION OF BOTH
     MECHANISMS TO THE INITIAL QUENCHING CONST. IS DISCUSSED.

TITLE--ELECTRON EXCITATION ENERGY TRANSFER IN LIQUID SOLUTIONS. III -U

AUTHOR-(05)-AGREST, M.M., ANDREYESHCHEV, YE.A., KILIN, S.F., RIKENGLAZ,
   M.M., ROZMAN, I.M.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 625-31

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--EXCITATION ENERGY, AROMATIC ETHER, CYCLOHEXANE, ETHYLENE
   GLYCOL, ETHANOL, SOLVENT ACTION, NAPHTHOL, ABSORPTION SPECTRUM,
   FLUORESCENCE SPECTRUM, ELECTRON DONOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0972   STEP NO--UR/0048/70/034/003/0625/0631

CIRC ACCESSION NO--AP0124631
                          UNCLASSIFIED

2/2   022   UNCLASSIFIED   PROCESSING DATE--11DEC70

CIRC ACCESSICN NO--AP0135791

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO SERIES OF EXPERIMENTS WERE
PERFORMED GN 270 WHITE PLYMOUTHRUCK BROILERS TO STUDY THE EFFECT OF
VITAMIN K DEFICIENCY ON THE MECHANISM OF BLOOD COAGULATION.   IT IS
FOUND THAT THE CONDITION OF K-HYPOVITAMINOSIS AND AVITAMINOSIS IN THE
BROILERS IS CONNECTED WITH HEMORRHAGIC CIATHESIS WHICH RESULTS FROM THE
DISTURBANCE OF HEMOSTASIS, THE INSUFFICIENT SYNTHESIS OF PROTHROMBIN AND
THE DISTURBANCE OF THE PHASE OF THROMBOPLAST FORMATION.   THE INCREASE
OF THE FIBRINOLYTIC ACTIVITY OF BLOOD STIMULATES BLEEDING.   THE ABSENCE
OF VITAMIN K IN BROILERS' FEEDING RATIONS IS PROBABLY ONE OF THE
CONDITIONS OF THE DEVELOPMENT OF CANNIBALISM.   FACILITY: M. V.
LOMONOSOV MOSCOW STATE UNIV., MOSCOW, USSR.

UNCLASSIFIED

1/2   022   UNCLASSIFIED   PROCESSING DATE--11DEC70
TITLE--CHANGES OF THE BLOOD COAGULATION MECHANISM IN HENS DURING VITAMIN K
    DEFICIENCY -U-

AUTHOR-(02)-ANDREYENKO, G.V., LAVROVA, L.A.

CCUNTRY OF INFO--USSR

SCURCE--SEL'SKCKHOZ BIOL 5(1): 79-84. ILLUS. 1970

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TCPIC TAGS--BLOOD COAGULATION, BIRD, VITAMIN DEFICIENCY, HEMOSTASIS

CCNTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0296   STEP NO--UR/9062/70/005/001/0079/0084

CIRC ACCESSICN NO--AP0135791
                        UNCLASSIFIED

USSR

UDC: 581.2

RUBIN, B.A., GUZHOVA, N.V., KARTASHOVA, YE. R., ANDREYCHUK, T.V., and MATVEYEVA, YE.S., Moscow State University imeni M.V. Lomonosov.

"Oxidative Apparatus of the Agent of Cotton Wilt (Fusarium oxysporum vasinfectum) of Different Pathogenicity"

Abstract: Concurrent experiments and analytical observations on two strains of Fusarium oxysporum vasinfectum, the virulent FV-15 strain, and the avirulent FA-61 strain, show that the catalytic and cytochrome oxidase processes in mycelia of these fungi are localized in the structural elements in a manner similar to that in higher plants. But the intensity of any particular function or enzymatic activity in the two strains is not alike. Both catalysis and cytochrome oxidase activity in FV-15 are much higher than in FA-61. The content of protohematin correlates with the activity of porphyrin enzymes: these are higher in FV-15, indicating a much higher intensity in the porphyrin-mycelium exchange. Generally, the differences, concerning all phases of oxidative and metabolic processes, have a definite influence on the pathogenicity of the fungus. The degree of pathogenicity is correlated positively with the intensity of metabolic activity.

1/1

USSR

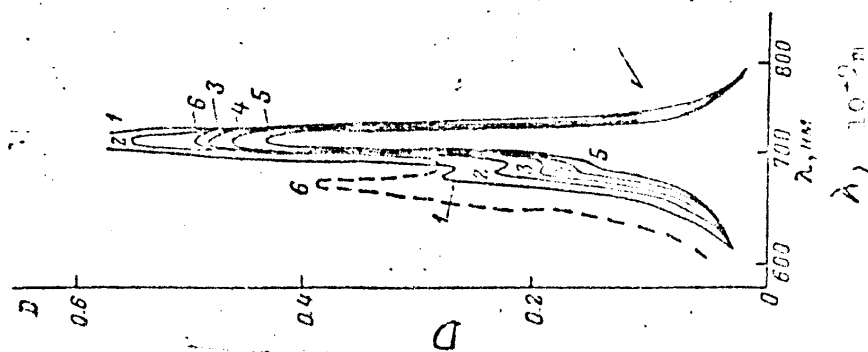VASIL'YEV, V. Ya., et al., Radiokhimiya, Vol 14, Vyp 1, 1972, pp 145-146

Figure 2 - Absorption spectrum of U (IV) in the organic phase during
extraction from the mixture [(S-x)M $HClO_4$ + M HNO_3].
(For spectrum 1, x=0.1; 2, x=0.2; 3, x=0.3; 4, x=0.4; 5, x=1.5;
6, x=0.0)

4/4

USSR

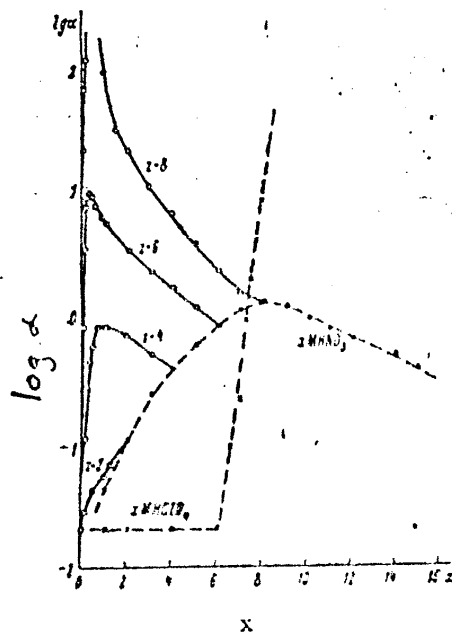VASIL'YEV, V. Ya., et al., Radiokhimiya, Vol 14, Vyp 1, 1972, pp 145-146

Figure 1 - Partition coefficients α, as a function of acid concentration, x, for HNO_3, $HClO_4$, and mixtures of the form $[xM \ HNO_3 + (z-x)M \ HClO_4] \ C_U(IV)$ 0.05M, $t^o = 24\pm1^\circ C$.

3/4

USSR

VASIL'YEV, V. Ya., et al., Radiokhimiya, Vol 14, Vyp 1, 1972, pp 145-146

therefore in the organic phase only one form of U (IV) is present. However for extraction from mixtures corresponding to the left side of figure 1 the absorption spectra of U (IV) has several (at least two) forms. Thus both the partition coefficients and the U (IV) species are a function of the $HClO_4$ concentrate.

2/4

USSR

VASIL'YEV, V. Ya., ANDREYCHUK, N. N., and RYKOV, A. G.

"Extraction of Uranium (IV) From Tributyl Phosphate From Mixtures of
Hydrochloric and Nitric Acids"

Abstract: It was shown that the perchlorate ions show a substantial influence
on the extraction of neptunium (IV), neptunium (VI), zirconium (IV) and
halfnium (IV) with tributyl phosphate (TBP) solutions. Similar results were
obtained from the extraction of Uranium (IV) with a 10% solution of TBP in
CCl_4 from mixtures of hydrochloric and nitric acids. From figure 1 it can
be seen that during extraction from mixtures having the composition [xM
HNO_3 + (z-x)M $HClO_4$] the partition coefficient of U (IV) is significantly
lower than during extraction from nitric acid. It should be noted that
U (IV) is not extracted from $HClO_4$ solutions at $C_{HClO_4} < 6$ M. The change in
the absorption spectrum (fggure 2) of U (IV) in the organic phase shows that
during the extraction from nitric acid, corresponding to the right side of
the curve in figure 1 ($C_{HNO_3} > c_{HNO_3}^{MAX}$), these lines remain constant and

- 55 -

USSR

VASIL'YEV, V. Ya., et al, Radiokhimiya, Vol 14, No 1, 1972, pp 145-146
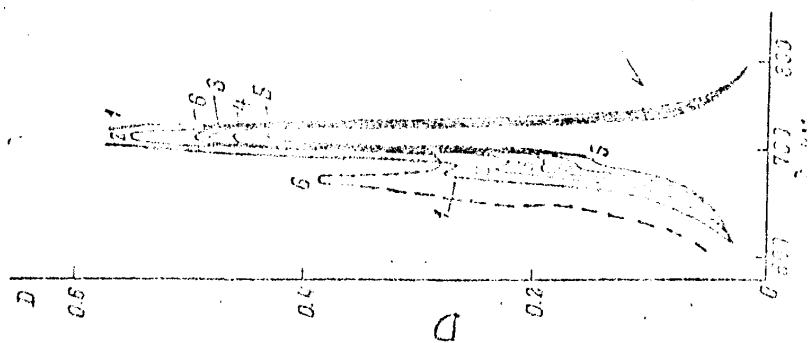
$$\lambda, 10^{-9} m$$

Figure 2

Absorption spectrum of U (IV) in the organic phase during extraction from the mixture $[(8-x)N\ HClO_4 + xN\ HNO_3]$.

(For spectrum 1, x=0.1; 2, x=0.2; 3, x=0.3; 4, x=0.4; 5, x=1.5; 6, x=0.0).

4/4

- 13 -

USSR

VASIL'YEV, V. Ya., et al., Radiokhimiya, Vol 14, No 1, 1972, pp 145-146

3/4

USSR

organic phase only one form of U (IV) is present. However for extraction
from mixtures corresponding to the left side of figure 1 the absorption
spectra of U (IV) has several (at least two) forms. Thus both the partition
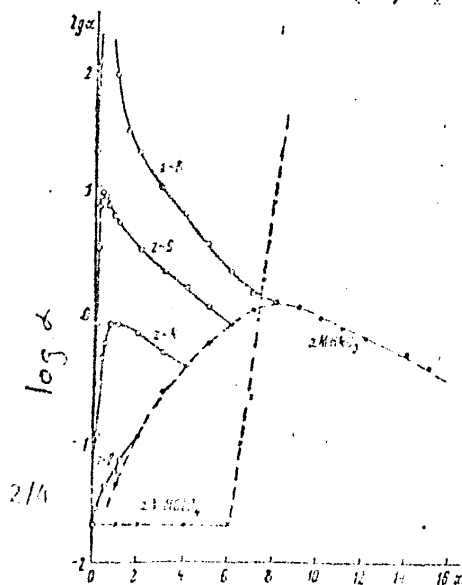coefficients and the U (IV) species are a function of the $HClO_4$ concentrate.

Figure 1

Partition coefficients, as a
function of acid concentration, x,
for HNO_3, $HClO_4$, and mixtures of
the form $[xM\ HNO_3 + (a-x)\ M\ HClO_4]$
$C_U(IV) = 0.05M, t^o = 24\pm1^oC$.

- 12 -

USSR

UDC 542.61 + 546.791/4

VASIL'YEV, V. YA., ANDREYCHUK, N. N., and RYKOV, A. G.

"Extraction of Uranium (IV) From Tributyl Phosphate From Mixtures of Hydrochloric and Nitric Acids"

Leningrad, Radiokhimiya, Vol 14, No 1, 1972, pp 145-146

Abstract: It was shown that the perchlorate ions show a substantial influence on the extraction of neptunium (IV), neptunium (VI), zirconium (IV) and hafnium (IV) with tributyl phosphate (TBP) solutions. Similar results were obtained for the extraction of Uranium (IV) with a 10% solution of TBP in CCl_4, from mixtures of hydrochloric and nitric acids. From figure 1 it can be seen that during extraction from mixtures having the composition $/xn\ HNO_3 + (x-x)N$

$HClO_4/$ the partition coefficient of U (IV) is significantly lower than during extraction from nitric acid. It should be noted that U(IV) is not extracted from $HClO_4$ solutions at $C_{HClO_4} < 6\ N$. The change in the absorption spectrum (figure 2) of U (IV) in the organic phase shows that during the extraction from nitric acid, corresponding to the right side of the curve in figure 1 ($C_{HNO_3} > C'_{HNO_3}$), these lines remain constant and therefore are in the

1/4

USSR

VOYNICH, B. A., VOLKOVA, G. A., ANDREYCHUK, M. V., ANDRIANOV, V. A.

"Effect Which a Priori Information Concerning the Location of an Object has on the Quality of Radar Detection"

Translation: Consideration is given to the possibility of using a priori data on the location of objects within a given range of distances to calculate the energy potential of a radar. Relations are given for the probability of taking the correct decision as a function of the probability of correct detection and the probability of a false alarm. It is shown that the power required by the transmitter can be reduced in the case of a normal probability density function for target range. Eight illustrations, bibliography of three titles. Resumé.

1/1

ANDREYCHUK, M.V.

■ · RADAR engineer

ANDREYCHII, M.V.

UDC 629.7.050.54.001

"Effect of a priori information on the Location of an Object on the Quality of Radar Detection," . . Vovnich. C. A. Volkova, M. V. Andreychin, V.-A. Andrianov, Teoriya i _____ _____ ___. _____ ___ (Radar Theory and Practice, III, _____ of ___ _____ Order of Lenin Aviation Institute imeni Sergo Ordzhonikidze), No 207, Mashinostroyeniye Press, 1970, pages 204-211

A study was made of the possibility of using a priori information about the location of objects in the given range for calculating the radar energy potential. Relations are presented for the pro ability of a false correct decision as a function of the magnitude of the probability of correct detection and probability of false alarm. The probability of relative to the required transmitter power for normal distribution density of the range to the target is estimated. There are 8 illustrations and a 3-entry bibliography.

CIRC ACCESSION NO--AP0132282

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.   A 2:1 MIXT. (MOLAR) OF
ARENEAZO,2,IMIDAZOLES AND APPROPRIATE METAL ACETATES IN MEOH GAVE I (M,
COLOR, AND DIPOLE MOMENT GIVEN): NI PRIME POSITIVE POSITIVE, BROWN,
3.18; CO PRIME POSITIVE POSITIVE, GREEN, 4.40; AND II: CU PRIME
POSITIVE POSITIVE, YELLOW BROWN, 2.04; NI PRIME POSITIVE POSITIVE, RED
BROWN, 3.43; CO PRIME POSITIVE POSITIVE, BROWN, 4.78. IN THE SOLID
STATE, EVIDENTLY THE STRUCTURE OF I IS A TETRAHEDRAL ARRANGEMENT, IN
WHICH HALF OF THE MOL. IS ROTATED AT RIGHT ANGLES TO THE OTHER ABOUT THE
HORIZONTAL AXIS.   POSSIBILITY OF POLYMERIC OCTAHEDRAL STRUCTURE FROM
FURTHER COORDINATION OF THE METAL WITH THE N PRIME3 ATOM OF IMIDAZOLE IS
ALSO POSSIBLE, HOWEVER.   FACILITY: ROSTOV.-NA-DONU GOS. UNIV.,
ROSTOV-ON-DON, USSR.

UNCLASSIFIED   PROCESSING DATE--13NOV70

1/2   011
TITLE--CHELATE COMPOUNDS OF ARENEAZO,2,IMIDAZOLES. NEW EXAMPLE OF
   COMPLEXES WITH A METAL CHELATE JUNCTION POINT OF THE M PLUS 4N TYPE -U-
AUTHOR-(05)-GARNOVSKIY, A.D., KUZNETSOVA, L.I., ANDREYCHIKOV, YU.P.,
   OSIPOV, O.A., SIMONOV, A.M.
COUNTRY OF INFO--USSR

SOURCE--ZH. OBSH. KHIM. 1970, 40(3), 710-11

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC AZOLE COMPOUND, ORGANIC COMPLEX COMPOUND, ACETATE,
   DIPOLE MOMENT, BROMINATED ORGANIC COMPOUND, HETEROCYCLIC OXYGEN
   COMPOUND, BENZENE DERIVATIVE, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/2022   STEP NO--UR/0079/70/040/003/0710/0711

CIRC ACCESSION NO--AP0132282
                        UNCLASSIFIED

AT0045337

the quantitative content, while the others determined only the upper or lower limit of the content of a particular component. Each probe measured the atmospheric content twice. The first analysis by "Venera-5" was made soon after opening of the main parachute when atmospheric pressure was ~ 0.6 kg/cm^2 and the temperature was $\sim 25°$. The second determination by "Venera-5" was in the lower part of the atmosphere at a pressure of about 5 kg/cm^2 and a temperature $\sim 150°$. "Venera-6" also made two determinations at different altitudes. The first was at a pressure of about 2 kg/cm^2 and a temperature of 85°; the second was made when the pressure attained ~ 10 kg/cm^2 and the temperature was about 225°.

Composition of Venusian Atmosphere

Components	"Venera-4" data	Data from "Venera-5" and "Venera-6"
CO_2, %	$90+10$	$97+4$
N_2, %	≤ 7 (possibly ≤ 2.5)	≤ 2
O_2, %	$0.4-1.5$	≤ 0.1
H_2O (at P 0.6 atm) mg/liter	$1-8$	~ 11

The temperature variation with altitude in the entire measurement range was close to adiabatic. It can be concluded that pressure and temperature at the planetary surface are about 100 atm and 500° respectively.

19780264

Acc. Nr.: _AT0045337_   A   Ref. Code: _UR0020_

                                                              JPRS 50052

Determination of Composition of Venusian Atmosphere

(Abstract: "Study of the Composition of the Venusian Atmosphere on the
'Venera-5' and 'Venera-6' Automatic Stations," by Academician A. P. Vino-
gradov, Yu. A. Surkov and B. M. Andreychikov, Institute of Geochemistry
and Analytical Chemistry; Moscow, Doklady Akademii Nauk SSSR, Vol. 190,
No. 3, 1970, pp. 552-554)

        "Venera-5" and "Venera-6" reached Venus and made a smooth descent
into its atmosphere. Both made measurements during their descent in the
segment where pressure changed from 0.6 to 27 atm and the temperature
changed from 25 to 320°. The purpose of this experiment was a further
investigation of the physicochemical characteristics of the Venusian at-
mosphere and especially a more precise determination of its chemical com-
position. The probes carried gas analyzers similar to those carried by
"Venera-4," with some improvements introduced. Each probe carried two
instruments. Both instruments were used in determining the atmospheric
content of carbon dioxide, nitrogen, water and oxygen. The determinations
were made during the parachute descent at pressures from ~ 0.6 to ~ 10
kg/cm². The gas analyzers had two types of sensors, one of which measured

                                                              /2

                          Reel/Frame
                          19780263

¹/₂

USSR

UDC 62'.039.56(088.8)

KOROLEV, Ye. V., KOSTYLEV, D. V., ANDREYCHIKOV, B. I., PINCHUK, D. Ya., BARANOV, Ya. I.

"Overload Machine"

Translation: An overload machine is patented that contains a shell, a platform, mechanisms for coordinate displacement, and a system for television observation. It has two manipulators to increase the reliability for acquiring and displacing nonequilibrium objects and a synchronization mechanism, a manipulator equipped with a device for the smooth increase and limitation of forces and an auxiliary manipulator equipped with a hand screw. The inner tube of the working manipulator was installed on a compression spring which was balanced by a second spring in order to increase the smoothness of shockless installation of the overload object and between the springs there was installed a transducer to control the magnitude of the force. 1 ill.

1/1

USSR

UDC 771.531.3

ANDREYANOV, V. V., GRECHKO, L. V., SVIRIDENKO, M. N., and SVIRIDENKO, A. I.,
Shostka Branch of the State Scientific-Research Institute of Chemical-
Photographic Design

"A New Color Reversible Film TsO-T-90L for TV"

Abstract: The State Scientific-Research Institute of Chemical-Photographic
Design and the Shostka Chemical Combine devised the film for reporting pur-
poses either in artificial lighting or, with special filter, in daylight.

One positive feature of the new film is that when black-white development
time is changed, the film shows no light-sensitivity balance among the
several layers. In addition, during developing, light sensitivity can be
increased and the contrast factor reduced, without any perceptible effect
on light transmission.

1/1

- 186 -

ANDRETSOV, V. A.

Acc. Nr: *AP0*051980

Ref. Code: *URa219*

PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditsiny, 1970, Vol 69, Nr 3, pp 84-87

THE EFFECT OF HETEROLOGOUS ANTILYMPHOCYTIC SERUM
ON THE IMMUNOREACTIVITY OF MICE

R. K. Andreson

N. F. Gamalei Institute of Epidemiology and Microbiology of the AMS
of the USSR, Moscow

The effect of heterologous antilymphocytic serum (ALS) on the immunoreactivity of
adult mice was studied. The results of tests demonstrated that the ALS materially slows down
the development of the transplantation immunity, and also suppresses the development of
antibody-forming cells in response to primary introduction of sheep erythrocytes. The data
thus procured justify an inference that ALS is an effective immunodepressant, and its possible
mechanism of action is discussed.

REEL/FRAME
19820467

USSR

KUDRYAVTSEV, I. V., et al, Svarochnoye Proizvodstvo, No 10, Oct 70, pp
22-24

are repaired cause no decrease in fatigue resistance if carefully finished.
The fatigue resistance of 50-mm-thick specimens with unrepaired dents is
83% of the endurance limit of smooth specimens. The fatigue resistance
of specimens with dents hardened by stamping is close to the fatigue re-
sistance of smooth specimens.

2/2

USSR   UDC 621.791:620.178.3.004.64

KUDRYAVTSEV, I. V., Doctor of Technical Sciences, BRINBERG, I. L., Candi-
date of Technical Sciences, and ANDRENKO, V. M., Engineer

"Influence of Technology of Attachment of Plates and Repair of Defects on
the Fatigue Strength of 16GNMA Steel"

Abstract: A study was made to determine the fatigue resistance of boiler
steel in connection with the varying technologies of welding of separation
elements and correction of defects on the internal walls of the high-para-
meter drums and boilers. The steel tested had the following chemical
composition: 0.17% C, 1.04% Mn, 0.36% Si, 0.05% Cr, 1.1% Ni, 0.47% Mo,
0.16% Cu, 0.05% V, 0.012% P, and 0.013% S. Fatigue resistance was deter-
mined using specimens imitating the welding of separator elements and
repair of cracks. It was determined that the attachment of plates to
115-mm-thick specimens decreases their fatigue strength by 50% in com-
parison with smooth specimens. The method of welding the plates (one-
sided or two-sided) has no marked effect on fatigue strength. Cracks
are easier to locate when two-sided welding is used. Points where cracks
1/2

CIRC ACCESSION NO--AP0122372

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GLYCOGENOLYTIC ACTIVITY WAS DETD.
  IN BLOOD SERUMS AND URINE OF 153 PATIENTS WITH KIDNEY DISEASES. A
  FRESHLY PREPD. SOLN. (0.3PERCENT, ISOLATED FROM RABBIT LIVER) OF
  GLYCOGEN WAS MIXED WITH SERUM OR URINE AND INCUBATED FOR 2 HR AT
  40DEGREES. REDUCING SUGARS ARE DETD. IN THE REACTION MIXT. BY THE
  HAGEDORN-JENSEN METHOD. IN 20 HEALTHY INDIVIDUALS 29.9 MG PERCENT OF
  SUGARS WAS FOUND IN THE SERUM AND 27.3 MG PERCENT IN URINE. PATIENTS
  WITH CHRONIC NEPHRITIS (WITHOUT FUNCTIONAL DAMAGE OF THE KIDNEY) HAD
  20.2 MG PERCENT IN SERUM AND 22.2 MG PERCENT IN URINE. IN PATIENTS
  SUFFERING FROM CHRONIC NEPHRITIS WITH INCREASED AZOTEMIA, INCREASED
  VALUES WERE FOUND IN SERUM (40.8 MG PERCENT) AND SLIGHTLY DECREASED
  (22.3 MG PERCENT) IN URINE. CHRONIC PYELONEPHRITIS WAS FOLLOWED BY
  SLIGHTLY DECREASED GLYCOGENOLYTIC ACTIVITY IN SERUM (21.7 MG PERCENT)
  AND INCREASED IN URINE 48.1 MG PERCENT). IN CHRONIC PYELONEPHRITIS
  WITH UREMIA INCREASED VALUES WERE FOUND BOTH IN SERUM (47.0 MG PERCENT)
  AND IN URINE 54.5 MG PERCENT). IT IS CONCLUDED THAT THE DETN. OF THE
  GLYCOGENOLYTIC ACTIVITY IN SERUM AND URINE IS VALUABLE FOR DIAGNOSIS OF
  KIDNEY DISEASES.   FACILITY: VINNITS, MED. INST., VINNITSA, USSR.

UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--METHODS AND IMPORTANCE OF DETERMINING GLYCOGENOLYTIC PROPERTIES OF
   SERUM AND URINE -U-

AUTHOR--ANDRENKO, P.T.

COUNTRY OF INFO--USSR

SOURCE--LAB. DELO 1970, (1), 27-9

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY FAILURE, NEPHRITIS, URINE, BLOOD SERUM, GLYCOGEN,
   DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/0106   STEP NO--UR/9099/70/000/001/0027/0029

CIRC ACCESSION NO--AP0122372
                           UNCLASSIFIED

UDC 547.859.7'785.5:543.4.6

USSR

POZHARSKIY, A. F., KASHPAROV, I. S., ANDREICHIKOV, YU. P., BURYAK, A. I.,
KONSTANTINCHENKO, A. A., and SIMONOV, A. M., Rostov-on-Don State University

"Heterocyclic Analogs of Pleiadiene. VII. Tautomerism of 2-Amino-derivatives
of Perimidine, Aceperimidine, and Their Imidazole Analogs"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 6, Jun 71, pp 807-813

Abstract: Analysis of the ionization constants, infrared and ultraviolet
spectral data and of quantum mechanical calculations showed that 2-aminoperi-
midines and 2-aminoaceperimidines show a greater tendency toward a tautomeric
equilibrium shift in the direction of the imino form than the 2-aminoderivatives
of 4,5-diphenylimidazole, benzimidazole, and angular or linear naphtimidazoles.
This tendency is believed to be connected with their π-electron structure.

1/1

- 19 -

USSR

PRAVDA, V. I., et al., Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8,
1972, pp 1037-1041

is also illustrated. The greatest increase in the coupling impedance with a
decrease in the parameter a (an increase in the slot size) is observed for
$\phi = 7\pi/6$. For $\phi = 3\pi/2$, the increase is insignificant. For $d/\ell \approx 0.3$ ld is
the length of the drift gap; ℓ is the period of the system, the coupling im-
pedance has the largest value near the shortwave limit of the operating fre-
quency band of the delay system and the least value of the coupling impedance
on the edges of the operating frequency band. The application of symmetric
drift tubes with such walls lead to concentration of the electric field in the
zone of interaction with the electron beam and significantly increases the
coupling impedance in the entire operating frequency band of the delay system.
The coupling impedance increases with a decrease in the thickness of the dia-
phragm [iris]. However, a decrease in thickness of the iris worsens the
heat dissipating properties of the delay system.

2/2

USSR

PRAVDA, V. I., LIZHDVOY, K. YA., ANDRAKOVSKAYA, I. A.

"Experimental Study of the Coupling Impedance of Resonator Chains with a Positive Mutual Inductance Coefficient"

Abstract: The results are presented from an experimental study of the coupling impedance of delay systems of the resonator chain type with a positive mutual inductance coefficient as a function of the geometric dimensions. The results of the experimental study of the dispersion characteristics were presented previously [Ya. K. Trokhimenko, et al., Radiotekhnika, Khar'kov State University Press, Khar'kov, No 3, 40, 1966] Graphs are presented showing the coupling impedance as a function of the diameter of the drift channel for points of the dispersion characteristic corresponding to the phase shift by $5\pi/3$, $3\pi/2$, $4\pi/3$ and $7\pi/6$. When investigating the dependence of the coupling impedance on the number of slots, a study was made of delay systems with two-slot and single-slot diaphragms characterized by the same shape of the dispersion characteristics in approximately the same pass band. The presented graphs show that the two-slot delay systems have approximately the same coupling impedance as the single-slot ones. The degree of coupling between the cells of the system has a significant effect on the magnitude of the coupling impedance. This relation
1/2

Acc. Nr:
AP0036539

Ref. Code: UR 0069

STUDY OF THE COLLOIDAL-CHEMICAL FACTORS
OF BEAD POLYMERIZATION OF VINYL MONOMERS

EFFECT OF THE DISPERSING AGENT (POLYMETHACRYLIC ACID) CONCENTRATION
AND NEUTRALIZATION DEGREE ON THE STABILIZATION OF STYRENE MACROEMULSION

A. L. Yurzhenko, I. A. Andor

Summary

The study of stabilization of styrene macroemulsion undergoing polymerization in the presence of polymethacrylic acid used as a dispersing agent has shown that the dependence of the stabilizing properties on the neutralization degree and concentration of the polyacid is areadily accounted for by the conformation changes of the dispersing sgent macromolecules in the solution and by the variation of the hydrodynamic conditions under which bead polymerization is carried out.

D. n.

7